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10/677,886	10/01/2003	Detlev Marpe	SCHO0154	9699

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EXAMINER	
SMITH, JEFFREY S	
ART UNIT	**PAPER NUMBER**
2624	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	**Application No.** 10/677,886	**Applicant(s)** MARPE ET AL.
	Examiner Jeffrey S. Smith	**Art Unit** 2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *8,9,19 and 20* is/are allowed.

6)☒ Claim(s) *1-7,10-18 and 21-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 April 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

Claims 23 and 24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. For claims 23 and 24, each claim recites a memory device having stereo therein a computer program having instructions for performing, when running on a computer, a method.

The claims do not recite that the memory device is a computer readable memory device storing a computer program. Furthermore, the claimed feature of a "memory device having stereo therein a computer program having instructions for performing, when running on a computer, a method" does not appear to be supported by the specification and drawings as originally filed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-5, 10-16 and 21-26 are rejected under 35 U.S.C. 102(a) as being anticipated by Proposed Cleanup Changes for CABAC by Marpe et al. ("Marpe").

For claim 1, Marpe discloses investigating as to whether a neighboring portion of the video frame neighboring the predetermined portion is precoded in the first way or the second way (Section 2.3 "Let A and B denote the spatially neighboring MB pairs to the left and on top of the current MB pair X, respectively, then we choose the conditioning term ctx_mb_field (X) according to the template ctx_var_spat1"), in order to obtain a binary value ("a binary-valued frame/field flag...is required").

Marpe further discloses assigning one of at least two context models to the predetermined portion of the video frame based on the binary value, wherein each context model is associated with a different probability estimation ("This results in 3 additional contexts models for coding of mb_field_decoding_flag". Also, having a context model associated with a probability is inherent in context-based adaptive binary arithmetic coding).

Marpe discloses arithmetically encoding the syntax element into the coded bit stream based on the probability estimation with which the assigned context model is associated (arithmetic coding is inherent in context-based adaptive binary arithmetic coding (CABAC)).

For claim 2, Marpe discloses wherein the video frame is spatially subdivided into an array of macroblock pairs, each macroblock pair consisting of two macroblocks, and the predetermined portion is a predetermined macroblock in a predetermined macroblock pair and the neighbouring portion is a neighbouring macroblock in a neighbouring macroblock pair adjacent to the predetermined macroblock pair.

For claim 3, Marpe discloses that the syntax element is contained several times in the precoded video signal, each time being associated with a different portion of the video frame, and wherein the method is conducted each time. See for example, the conditioning term, which contains the syntax elements for macroblocks A and B.

For claim 4, Marpe discloses that the step of investigating comprises the step of investigating a syntax element associated with the neighbouring portion. See for example, the conditioning term, which contains the syntax elements for neighboring macroblocks A and B.

For claim 5, Marpe discloses that the video frame is composed of picture samples, the picture samples belonging either to a first or a second field being captured at different time instants, and wherein the syntax element is a frame/field decoding flag indicating as to whether the predetermined macroblock merely contains either picture samples belonging to the first field or picture samples belonging to the second field or the predetermined macroblocks contains both, picture samples belonging to the first field and picture samples belonging to the second field, and wherein the step of investigating comprises investigating as to whether said neighbouring macroblock merely contains either picture samples belonging to the first field or picture samples belonging to the second field, or the neighbouring macroblock contains both, picture samples belonging to the first field and picture samples belonging to the second field.

For claim 10, the step of arithmetically encoding in CABAC inherently includes deducing a current arithmetic code interval in accordance with the probability estimation with which the assigned context model is associated to one of two subintervals into which the probability estimation with which the assigned context model is associated separates the current arithmetic code interval, in order to obtain a reduced current arithmetic coding interval, wherein the coded bit stream depends on the reduced current arithmetic coding interval. See for example "Joint Final Committee Draft (JFCD) of Joint Video Specification" issued by the Joint Video Team (JVT) on August 10, 2002 (ITU-T Rec. H.264 & ISO/IEC 14496-10 AVC).

For claim 11, the step of adapting the probability estimation with which the assigned context model is associated based on the syntax element is inherent in CABAC.

Claims 12-16 and 21-22 recite a method for decoding a syntax element from a coded bit stream. These claims are similar to the methods for encoding as recited in claims 1-5 and 10-11. Although Marpe does not explicitly recite the decoding steps, these steps are inherently performed using the frame/field decoding flag.

Claim 23 recites a computer program having instructions for performing a method for encoding a syntax element. Although Marpe does not explicitly state that the frame/field decoding flag is used by a computer program, the flag that is disclosed is clearly part of a computer program that performs these functions.

Claim 24 recites a computer program for decoding a syntax element. Clearly, the decoding flag is used to decode the syntax element.

Claim 25 recites an apparatus for encoding a syntax element. The decoding flag of Marpe is part of an apparatus that encodes the syntax element.

Claim 26 recites an apparatus for decoding a syntax element. The decoding flag of Marpe is part of an apparatus that decodes the syntax element.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6-7 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marpe in view of U.S. Patent No. 6,980,596 issued to Wang et al. ("Wang").

For claim 6, Marpe discloses the elements of base claim 1.

Marpe does not disclose computing a neighboring macroblock address.

Wang discloses a) computing a neighbouring macroblock address based on a macroblock address of the predetermined macroblock in order to obtain a computed neighbouring macroblock address for the neighbouring macroblock; b) checking, as to whether the computed neighbouring macroblock address is assigned one of the macroblocks in the video frame, in order to obtain a check result; c) if the check result is positive, investigating as to whether the macroblock assigned to the computed neighbouring macroblock address is precoded in the first way or the second way; d) if the check result is positive and the macroblock assigned to the computed neighbouring macroblock address is precoded in a predetermined one of the first and the second way, setting the binary value to a first bit value; and e) if the check result is negative or the macroblock assigned to the computed neighbouring macroblock address is not precoded in the predetermined one of the first and the second way, setting the binary value to a second bit value being different to the first bit value. See Wang column16, lines 1-7.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the field/frame coding process of Marpe to include computing the neighboring block address of Wang, because this allows for a way of performing intra mode prediction of digital video content at the macroblock level. See Wang, column 15 lines 56-61.

For claim 7, Wang discloses that macroblocks are grouped into slices and step b) is adapted such that the check result is merely positive if the macroblock assigned to the computed neighbouring macroblock address belongs to the same slice as the predetermined macroblock. See Wang, Figure 2.

For claims 17 and 18, Marpe discloses the elements of base claim 12, and Wang discloses the elements of dependents claims 17 and 18.

Response to Arguments

Applicant's arguments filed April 19, 2007 have been fully considered but they are not persuasive. Applicant argues that the "publication date being less than one year prior to the filing of the subject application, the Marpe document is not prior art and the rejection of 35 USC 102 is deem traversed." This is not true for a rejection based on 35 U.S.C. 102(a).

Applicant further argues that because "the inventors are also authors of the Marpe reference, the teaching therein is not 'of another.'" However, the authors of the

Marpe reference shown in Exhibit A of the declarations also include Gabi Bittermann and Guido Heising, which makes "the teaching therein" of another as defined by 35 U.S.C. 102(a).

Each declaration fails to rebut the presumption that the activity described in the reference is attributed to all authors. Each declaration merely states that "the cited reference itself is not prior art for the reason that it comprises a publication by myself, and my co-inventor, and one other individual." This statement is wrong. The reason given in this statement actually qualifies the reference as prior art because of the one other individual.

In fact, the reference in the Exhibit actually lists two additional people as authors, Bittermann and Heising. The statements in each declaration are ambiguous as to the actual contribution made by Bittermann and Heising to the reference. Did Bittermann and Heising contribute to the reference? If so, what were their contributions?

Not only are the two declarations inadequate, but they contradict each other. Each declaration says that "to the extent that the cited reference teaches my invention, the teaching is my own teaching and not that of another." Both declarations cannot be simultaneously true.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey S. Smith whose telephone number is 571 270-1235. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSS
April 24, 2007

JINGGE WU
SUPERVISORY PATENT EXAMINER